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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/642,703	08/18/2003	Tae-Sung Park	5000-1-327	4363

33942 7590 06/02/2005

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EXAMINER


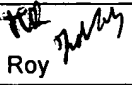
VAN ROY, TOD THOMAS

ART UNIT PAPER NUMBER

2828

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/642,703	Applicant(s) PARK ET AL. 	
	Examiner  Tod T. Van Roy	Art Unit 2828	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>01/13/2004</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: Fig.2 #20, 51.

The drawings are objected to because Fig. 5 notes the sensor type as being NTC. According to the disclosure, the sensor type for this configuration should be PTC.

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

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Claim Objections

Claims 2 and 3 are objected to because of the following informalities:

It is believed that the sensor types in these claims should be interchanged.

According to the disclosure and accompanying figures, claim 2 should be for the NTC type sensor and claim 3 should be for the PTC. The examiner has searched the claims based on this change.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 3, and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Furusawa (US 4739467).

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With respect to claim 1, Furusawa teaches a temperature controller comprising a temperature sensor for detecting the current temperature (fig.1 #3) and a temperature comparison section (fig.1 #4,5) comprising a differential amplifier (fig.1 #5a) for outputting a difference between signals which are inputted respectively into the anode and cathode terminals thereof (col.5 lines 58-65), a first resistor (fig.1 r1-upper) connected to the temperature sensor, a second resistor (fig.1 r2-lower) connected to the anode terminal of the differential amplifier and spaced apart from the first resistor, a third resistor (fig.1 r2-upper) connected to the cathode terminal of the differential amplifier and spaced apart from the first and second resistors, and a fourth resistor (fig.1 r1-lower) for receiving a signal corresponding to the predetermined temperature (fig.1 #5b, col.6 lines 19-24) and spaced from the first, second, and third resistors, wherein the first to fourth resistors are short circuited with one another selectively (directly connected utilizing wires) according to a type of the temperature sensor so as to vary the polarity of the signals inputted into the differential amplifier. Furusawa does not teach the temperature controller to consist of resistance pads. It would have been obvious to one of ordinary skill in the art at the time of the invention to replace the resistors of Furusawa with resistance pads since the pads perform the same physical function of a resistor (providing a contact, path for current flow, and an impedance) and are simply of a smaller size. MPEP 2144.04 IVa, in regards to *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984) cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), teaches that a reduction in size (i.e. from a resistor to a

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resistance pad) that does not change the performance of the device (as noted above) is not patently distinct from the prior art.

With respect to claim 3, Furusawa teaches the temperature controller as outlined in the rejection to claim 1, and further teaches the temperature sensor to be of a PTC type (col.5 lines 50-53), and that the first and third resistors are short circuited together (fig.1 r1-top directly shorted to r2-top), and the second and fourth resistors being short circuited to each other (fig.1 r2-lower directly shorted to r1-lower).

Claim 5 is rejected for the same reason as claim 1. This claim merely details the methods of operating the device. The method of operating a device is not germane to the patentability of the device itself, therefore these limitations are not given patentable weight. At best this claim could be characterized as a product-by-process claim, where the process limitations are not limiting, only the structure implied by the process. See MPEP 2113. Here, the structure implied by the process steps is merely the structure of claim 1.

Claims 1, 2, and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eckel et al (US 6798341) in view of Furusawa.

With respect to claim 1, Eckel teaches a temperature controller comprising a temperature sensor for detecting the current temperature (fig.21 #290) and a temperature comparison section comprising a differential amplifier (fig.21 #298) for outputting a difference between signals which are inputted respectively into the anode and cathode terminals thereof (anode-from sensor, cathode-from Vref2), a first resistor

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(fig.21 #291) connected to the temperature sensor, a second resistor (fig.21 #294) connected to the anode terminal of the differential amplifier and spaced apart from the first resistor, a third resistor (fig.21 #297) connected to the cathode terminal of the differential amplifier and spaced apart from the first and second resistors, and a fourth resistor (fig.21 #296) for receiving a signal corresponding to the predetermined temperature (fig.21 Vref2) and spaced from the first, second, and third resistors, wherein the first to fourth resistors are short circuited with one another selectively (directly connected utilizing wires) according to a type of the temperature sensor so as to vary the polarity of the signals inputted into the differential amplifier. Eckel does not teach the temperature controller to consist of resistance pads, or that the reference voltage (Vref2) be of a set temperature. Furusawa teaches a temperature controller which uses a differential amplifier to compute the difference between a voltage from a temperature sensor, and a set voltage representing a given temperature (Furusawa, col.6 lines 19-24). It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the temperature controller of Eckel with the set voltage of Furusawa in order to save processing time and power (Eckel, col.37 lines 34-51). It would also have been obvious to one of ordinary skill in the art at the time of the invention to replace the resistors of Eckel with resistance pads since the pads perform the same physical function of a resistor (providing a contact, path for current flow, and an impedance) and are simply of a smaller size. MPEP 2144.04 IVa, in regards to *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984) cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), teaches that a reduction in size (i.e. from

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a resistor to a resistance pad) that does not change the performance of the device (as noted above) is not patently distinct from the prior art.

With respect to claim 2, Eckel and Furusawa teach the temperature controller as outlined in the rejection to claim 1, and further teach the use of an NTC sensor (Eckel, col.25 lines 35-36), and that the first and second resistors are short circuited (fig.21 #291 directly shorted to #294, note- #292 is 0 ohms col.25 lines 48-49), and the third and fourth resistors and short circuited with each other (fig.21 #297 directly shorted to #296).

With respect to claim 4, Eckel and Furusawa teach the temperature controller as outlined in the rejection to claim 1, and further teach the use of a resistor having a resistance of 0 ohms (fig.21 #292, col.25 lines 48-49) which short circuits the resistors with one another (fig.21 #291 directly shorted to #294).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tod T. Van Roy whose telephone number is (571)272-8447. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571)272-1835. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TVR


MINSUN CH HARVEY
PRIMARY EXAMINER